UNITED NATIONS

Convention to Combat Desertification

Distr.
GENERAL

ICCD/COP(4)/3/Add.1 (C)
28 November 2000

ENGLISH ONLY

CONFERENCE OF THE PARTIES
Fourth session
Bonn, 11-22 December 2000
Item 7 (a) and (b) of the provisional agenda[1]

IMPLEMENTATION OF THE CONVENTION

(a) REVIEW OF REPORTS ON IMPLEMENTATION OF AFFECTED COUNTRY PARTIES OF REGIONS OTHER THAN AFRICA, INCLUDING ON THE PARTICIPATORY PROCESS, AND ON EXPERIENCE GAINED AND RESULTS ACHIEVED IN THE PREPARATION AND IMPLEMENTATION OF NATIONAL ACTION PROGRAMMES

(b) REVIEW OF THE REPORT ON PROGRESS MADE IN THE FORMULATION AND IMPLEMENTATION OF SUBREGIONAL AND REGIONAL ACTION PROGRAMMES IN REGIONS OTHER THAN AFRICA

Addendum

COMPILATION OF SUMMARIES OF REPORTS SUBMITTED BY ASIAN COUNTRY PARTIES[2]

Note by the secretariat

1. By its decision 4/COP.3, the Conference of the Parties (COP) decided to undertake, at its fourth session, the review of reports on the implementation of affected country Parties of regions other than Africa, including reports on the participatory process and on experiences gained and results achieved in the preparation and implementation of national action programmes.

2. Pursuant to decision 11/COP.1, the secretariat was requested to compile the summaries of reports submitted by affected country Parties and submit the compilation to the Conference of the Parties for consideration and for any action the COP may wish to take. Decision 11/COP.1 also provided procedures and formats for reporting to the COP and required, in particular, a summary of the national reports, not to exceed six pages.

3. The present document contains the summaries of national reports submitted by nine country Parties from the Asian Region. These are: Sri Lanka, Syrian Arab Republic, Tajikistan, Turkmenistan, Tuvalu, United Arab Emirates, Uzbekistan, Viet Nam and Yemen. The secretariat will also make this compilation of summaries available on its Web site (www.unccd.int) for wider circulation.

---

[1] ICCD/COP(4)/1.

[2] Reproduced without formal editing.

CONTENTS

	Page
Sri Lanka	3
Syrian Arab Republic	8
Tajikistan	10
Turkmenistan	16
Tuvalu	23
United Arab Emirates	23
Uzbekistan	28
Viet Nam	32
Yemen	35

SRI LANKA

No part of Sri Lanka falls within the range of ratios specified in the Convention. However, within the Dry Zone, which is conventionally defined as the area receiving less than 1900 mm of rainfall annually, where the ratio of annual rainfall to potential evaporation falls within the range 0.05 to 0.65 during a major part of the year due in part to the very low rainfall received and in part to the low water holding capacity of the soils. Considering the monthly variations in evapotranspiration, frequent droughts experienced, anticipated climatic changes and the accelerated land degradation that is taking place due to human activities, it is likely that desertification may emerge as a problem in the Dry Zone in the near future.

Land degradation, however, is not confined to the Dry Zone. It is a severe problem in the Wet Zone as well, especially in the mid-country where steep slopes, high intensity rainfall and inappropriate land uses have led to high rates of soil erosion, landslides, etc. Land degradation therefore has to be treated as a problem that is widespread, occurring in all of the agro-climatic zones at varying intensities.

Land Degradation - Nature and Magnitude of the Problem in Sri Lanka

The demands of a rapidly expanding population has set up pressures on the island's natural resources and these in turn have resulted in a high level of environmental degradation. The more important manifestations are heavy soil losses, high sediment yields, soil fertility decline and reduction in crop yields, marginalization of agricultural land, salinization, land slides and deforestation and forest degradation.

(a) Heavy Soil Losses

It has been estimated that nearly one third of the land in Sri Lanka is subjected to soil erosion, the erodible proportion ranging from less than 10.0 per cent in some districts to over 50.0 per cent in others. The most vulnerable districts are those in which a high proportion of land is given over to either tea, annual crops or chena or shifting cultivation.

(b) High Sediment Yields

A part of the soil that is removed is transported by rivers and streams leading to sedimentation of reservoirs, downstream floods, etc., commonly referred to as the off-site effects of soil erosion. Some recent studies done within the Upper Mahaweli catchment have shown high rates of sediment yield in some rivers such as the Maha Oya and the Uma Oya.

(c) Soil Fertility Decline and Reduction in Crop Yields

A major reason for the decline in yields of plantation crops and food crops over the past several decades has been the loss of valuable top soil due to erosion. Agriculture on sloping lands in many areas is generally maintained by the artificial replacement of nutrients removed by erosion. Available evidence suggests that vegetable growers in the upcountry use large amounts of fertilizer to make up for the increasing poverty of the soil.

(d) Salinization and Water Logging

Records of the actual extent of land affected by salinity or data that indicate recent trends are not available, but sporadic studies seem to indicate the development of salt affected soils in lowland areas in the Dry Zone. Salinization of low-lying farm lands in coastal areas due to salt water intrusion is also a problem. Although water-logging is not considered a serious

problem; nevertheless, some lands in the coastal districts of the Wet Zone have been withdrawn from agriculture due to excess water.

(e) Marginalization of Agricultural Land

A sizeable extent of agricultural land in different parts of the country has become marginal or uneconomic. Apparently, a substantial portion of the remaining unutilized state lands is also marginal in nature. A significant proportion of the tea lands in the country are also considered to be marginal or uneconomic.

(f) Landslides

A reconnaissance survey carried out in landslide-prone areas has indicated that approximately 12,500 square miles are vulnerable to landslides. The available evidence seems to indicate that the country has been experiencing a spate of landslides over extensive areas in the central and south-western parts of the country since the early 1980s.

(g) Deforestation and Forest Degradation

The natural forest cover in the country which stood at 80.0 per cent until the turn of the century, had dwindled to less than 24.0 per cent by 1992. The deforestation has taken place both legally and illegally. Forests have been cleared legally for agriculture and settlement schemes and other development projects; they have been cleared illegally for shifting cultivation and for agriculture and settlement by encroachers. The quality of the forests in the country has also been declining due mainly to shifting cultivation, illicit felling of trees and encroachments.

Droughts

All parts of the country are subject to droughts. The problem of drought is particularly severe in the Dry Zone where the failure of rains in the main cultivation season, September to March, can spell disaster to thousands of families depending on rainfed agriculture for their livelihood. It has also been indicated that the probability of the occurrence of drought in both Maha and Yala is greater in the Dry Zone than in the Wet Zone.

National Policies, Strategies and Plans Prepared to Address Land Degradation Issues

The Government's growing concern about environmental issues, in general, and land degradation, in particular, over the past two decades or so is reflected in the different policy initiatives that have been taken, the strategies that have been formulated and the plans that have been prepared. The policies spelled out the Government's intentions regarding the management of natural resources including forests and water, the strategies establishing the priorities for the management of these resources, and the plans identifying the main management issues in each sector and providing a comprehensive long-term development framework for the different sectors.

Current Institutional Framework for Addressing Land Degradation Issues

The task of protecting and sustainably managing the environment is shared by the number of state institutions. The state sector institutions include a number of ministries and their line departments and agencies at the national level; and the Provincial Ministries of Environment, Lands and Agriculture at the sub-national level.

1. National Level Institutions

There are nine ministries directly involved in addressing issues pertaining to land degradation. They are the Ministry of Forestry and Environment, the Ministry of Agriculture and Lands, the Ministry of Mahaweli Development, the Ministry of Irrigation and Power, the Ministry of Plantation Industries, the Ministry of Urban Development and Housing, the Ministry of Public Administration and Home Affairs, the Ministry of Plan Implementation and Parliamentary Affairs, the Ministry of Education and Higher Education. The ministries and their relevant line departments and agencies are given in Table-1.

Guidance in sustainably managing resources coming under the jurisdiction of a ministry in provided by the ministry in the form of policy formulation and plan preparation. These policies and plans are translated into action by the relevant line departments and agencies.

Institutional Mechanisms for Integrating Environment and Development

It has been estimated that approximately 80 per cent of the land in the country is under the control of the State. Although a number of government ministries, line departments and statutory bodies are responsible for the management of this land, none have the overall authority over land-use decisions. The existence of such a large number of agencies sharing responsibility over various aspects of land resource management has not only lead to an overlapping of authority, but also to contradictory decisions and policies. The need to devise a suitable mechanism to ensure sufficiently strong linkages between them has been met by the Ministry of Forestry and Environment by creating two new institutions at the National level:

(a) Committees on Environment Policy and Management (CEPOMs) and

(b) Committee on Integrating Environment and Development (CIEDP).

2. Sub-National Level Institutions

(a) Provincial level

The responsibility for protecting and managing the environment at the sub-national level is in the hands of Provincial Councils. This responsibility stems from the Thirteenth Amendment to the Constitution of the Government of Sri Lanka passed in 1978. Under the Amendment, land administrative functions were devolved to the provincial and divisional levels. The Thirteenth Amendment also passed over to the Provincial Council the responsibility for "protecting the environment within the province.

(b) District level

The National Environmental Act empowers the Central Environmental Authority to appoint a District Environmental Agency for each administrative district consisting of such members as the Authority may determine. The functions of the committee include the assembling of relevant information on the environment and natural resources, coordinating environment related activities, identifying environmental problems and adopting measures to address such problems, planning and implementing programmes to increase environmental awareness, and performing any functions or duties delegated by the Central Environmental Authority.

(c) Divisional level

Each Divisional Secretary's Division has a Divisional Environment Committee chaired either by the Divisional Secretary or the chairman of the Pradeshiya Sabha. The functions of the committee include the collection of information on the environment, identifying environmental problems and finding solutions and assessing the environmental impact of development activities.

(d) Pradeshiya Sabhas

The Pradeshiya Shabhas Act empowers the Pradeshiya Sabha to appoint an Environment Committee comprising members of the Sabha and other persons from within the Pradeshiya Sabha area.

Legislation Enacted to Address Land Degradation Issues

Serious concern about land degradation in general and soil erosion in particular has been expressed for quite some time.

1. Land Resources

Two strategies have been adopted by the Government to address the problem of soil erosion. One is to incorporate environmental safeguards in legislative enactments pertaining to land and water resources development. The other is to introduce legislation specifically designed to prevent or mitigate soil erosion.

(a) Environmental Safeguards

Environmental safeguards have been incorporated in several pieces of legislation introduced since the 1930s. These include provisions to map out state lands for the prevention of soil erosion to ensure that owners of state lands as well as private lands adopt proper conservation measures, and punish persons who do not comply, to provide financial assistance; to promote water sheds management and the protection of critical water sheds, to prevent encroachment and clearing of forest and wild life reserves, and to encourage long-term research and technology for effective soil conservation.

(b) Prevention or Mitigation of Soil Erosion

A soil conservation Act was passed in 1951 to make provision for the conservation of soil resources, for prevention or mitigation of soil erosion and for the protection of land against damage by floods and droughts. It was subsequently realized that the provisions laid out in the Act were inadequate to meet present day demands and therefore the Act was amended in 1996.

International Assistance Received for Addressing Land Degradation Issues

The Government has been able to mobilize and utilize a substantial volume of foreign assistance for the conservation and management of natural resources. The assistance has come in the form of loans, grants and technical assistance. Between 1990 and 1999 approximately 33 projects have commenced with foreign assistance to promote the conservation and management of natural resources. Of the 33 projects, nearly half have focused on the management of water and forest resources. Assistance for the management of these two resources is being continued, but in recent years there has been a widening of interests on the part of donors to cover other concerns such as bio-diversity conservation and coast conservation. Of the sixteen projects for which assistance has been provided since 1995, four focus on bio-diversity conservation and coast conservation.

There has also been a recognition of the need to address other critical issues such as the promotion of environmental activities at the grass-roots level, the protection of critical watersheds, and the development of appropriate institutional arrangements to integrate natural resource management into development programmes.

Participation of Local Authorities, Non-Governmental Organizations (NGOs), Private Business and Academic Institutions in addressing Land Degradation Issues

Local Authorities, non-governmental organizations, private business and academic institutions have participated in the efforts being made by the Government to combat land degradation and promote the sustainable management of land and water resources. Local government authorities and private businesses have contributed directly by endeavouring to control land degradation within their respective areas of jurisdiction - the former in the non-plantation areas - and the latter in plantation areas. The NGOs and the academic institutions on the other hand have contributed indirectly - the former by raising environmental awareness amongst land users - and the latter by meeting the demand for trained personnel in the field of environmental management.

1. Local Authorities

There are three main local authorities in Sri Lanka - Municipal Councils, Urban Councils (for Urban areas) and Pradeshiya Sabhas. The Pradeshiya Sabhas are empowered to play a wide role relating to the conservation and improvement of the environment in their areas of authority, both under functions entrusted under Pradeshiya Sabha's Act and the functions entrusted by the Central Environmental Authority.

2. Non-Governmental Organizations

There are a large number of NGOs whose goal is the protection of the environment. Their main objective has been to raise environmental awareness among farmers and their children.

3. Private Businesses

Private sector involvement in addressing land degradation has been limited to a few companies engaged in agricultural production. Appropriate cultural practices and mechanical and biological soil conservation practices are being adopted by the companies on cultivated lands to minimize degradation and maximize production.

4. Universities

The universities are actively supporting government initiatives to address environmental issues by training personnel in environmental management, supported by both foreign funding and local funding. Several programmes on environmental subjects have been established and are now being implemented.

Recent Projects Implemented to Combat Land Degradation

A number of projects to promote the sustainable management of land resources have been implemented within the last one and a half decades with donor assistance from both multilateral and bilateral agencies. Some of these projects have been completed and others are being implemented. The major objectives have included reforestation and stabilization of denuded water sheds, management of natural resources in the Mahaweli catchments, protection of other critical water sheds, the mapping of land slide prone areas, the promotion of land-use planning and economically viable and ecologically sustainable farming systems, and institutional strengthening and policy formulation.

Experiences in Combating Land Degradation

All the projects implemented have had a common goal, i.e., to combat land degradation and improve the management of the land and water resources in the country. The activities undertaken by these projects however have varied. A wealth of experience has been gained through the implementation of these different activities. Some of the "lessons" learned are outlined below:

- Sub-watersheds and micro-catchments are better planning units because they are geographically defined and represent the "natural stage" on which the interaction of land, water and biotic resources take place;

- Land users can be motivated to take an active part in managing land and water resources by making them aware of the benefits of conservation and by developing simple and user-friendly interventions;

- Efforts made to involve land users in the management of land resources have not been entirely successful due to a number of reasons. Since participation has not been an unqualified success, an alternative approach is being tried out in which poverty and land degradation are treated as complementary issues;

- Institutional weaknesses, such as the unclear definition of institutional responsibilities and weak implementation capacity, have constrained the efforts to promote the sustainable management of land and water resources;

- The absence of a land-use policy has made it difficult to implement required land-use changes in areas vulnerable to land degradation.

- Some national policies have also hampered efforts to combat land degradation. Protection of some crops from imports has led to an extension of the area given over to erosive crops, while subsidies on fertilizer have encouraged farmers to use more fertilizer on degrading lands rather than adopt soil conservation measures.

SYRIAN ARAB REPUBLIC

Desertification is a major constraint for development in the Syrian Arab Republic, particularly in most of the Syrian Badia Rangelands (Steppe Zone) and the margin zone which is located between the Badia zone and the agricultural lands. Both zones, which originally had fragile ecosystems, are suffering from mismanagement and misuse of natural resources, in addition to severe disorders of the ecological system, since the end of the 1950s. Besides that, many factors are still playing a major role in deterioration of the environment overall both zones such as drought which has affected the area for many years. It is not surprising that policies and development plans are recently more concerned about the issues of environment health, perfect and rational use of resources, sustainability and ensuring the welfare of future generations.

The latest development plan of the Syrian Arab Republic concentrated on the necessity and importance of the protection of the environment. It concentrated on the conservation and rehabilitation of deteriorated natural resources, with the guarantee and adoption of sustainable development principles of all natural resources (especially the unrevived ones) and promoted the collaboration and participation of local national communities in preparing and implementing the NAP, based on the participatory approach.

Through activities of the Ministry of State for Env. Affairs, especially during the last five years, the MSEA has prepared and developed several strategies and national action programmes related to Agenda 21 such as:

- National building capacity funded by the World Bank;
- Protecting of Ozone layer funded by UNEP;
- National study on Biodiversity;
- National Strategy on Biodiversity.

One of the most important recommendations of the National Environmental Strategy was the preparation of the National Action Programme to Combat Desertification in Syria in order to guarantee the integration between development and environment at the national level.

Before 1995, national efforts concentrated on some projects and programmes funded through the Syrian Government or through technical and financial assistance/cooperation with international/Arabian organizations. These projects aimed at stopping land degradation and promoting rational use of natural resources, by implementing projects.

In 1995, the Syrian Government, in close collaboration with the Arab Organization for Agricultural Development (AOAD), has prepared a National Action Programme (NAP) to Combat Desertification. The Programme advocated the following:

- The rational use and conservation of natural resources;
- Taking all possible measures to integrate the population/target groups in designing and implementing their development programmes and in decision-making;
- Empowering population/target groups to plan and steer actions to improve their living conditions while sustaining their national resource heritage;
- Adopting an integrated and holistic approach to achieve economic development and alleviate poverty;

Most recently, the Government, in collaboration with the United Nations Development Programme (UNDP) has initiated a project on National Action Programme for Combating Desertification in Syria. This project will build on the existing NAP (of 1995) to formulate an integrated programme that contributes to the existing efforts in order to achieve the set goals and targets, and to meet Government commitments. The new NAP will streamline other environment strategies and programmes, enhance the integration of existing projects, ensure coordinated action, and enhance coordination.

The new National Action Programme to Combat Desertification in Syria is expected to be enhanced and integrated into other environmental/developmental strategies and programmes and to provide adequate coordination between all stakeholders, and clarification of all activities which might be implemented at the regional/subregional level.

Local communities, especially women, are expected to draw benefits from this NAP through training and awareness programmes. It will increase knowledge and environmental education about desertification and its causes and impacts on natural resources, food production, national economy and the population that lives inside or outside the affected areas. Participatory approach is expected to provide the suitable means to encourage all efforts and coordinate them in order to streamline the knowledge and experience of all concerned national stakeholders, NGOs, and regional research centres to cooperate and assist in formulating NAPs meant to protect the environment, combat desertification and reduce the impact of drought.

The Ministry of State for Environmental Affairs (MSEA) has been designated the National Focal Point for implementing the NAP to combat desertification. Within the MSEA is the Department of Soil and Land Conservation, which is the National Coordination Body (NCB) for all matters regarding UNCCD. The head of this department is also the national focal point, as well as the national Coordinator of the NAP to combat desertification which is funded by UNDP.

Two committees have been established to implement the NAP, including all stakeholders, NGOs, representatives of UNDP, international organizations such as ACSAD, ICARDA, AOAD and research centers.

The NCB financial resources are derived from the MSEA common budget, but a sizeable support comes from the UNDP assisted project and the Syrian Government. The National five-Year Development Plan allocates funds to projects and programmes with integrated components that relate to combating desertification.

At present NCB has no database, but plans and current efforts are directed to establish this facility. Some governmental institutions, regional organizations (ACSAD, AOAD and ICARDA) and research centres, which are members of the SC and the NTC, have databases. NCB can collaborate with and draw information from these databases to make an assessment and analysis to prepare and formulate a programme of priorities.

The project management has facilities such as: telephone, fax and e-mail; other audio/video equipment and a four-wheel drive vehicle.

Currently, awareness raising and encouragement of local populations to participate in resource conservation and checking of land degradation is done mainly within the context of environmental education campaigns.

Governmental institutions, NGOs and projects are active in this respect. MSE has an Information and Environmental Awareness Committee, which can also coordinate efforts to inform and educate the public about UNCCD and relevant actions.

Collaboration with the international community in stopping land degradation and combating desertification commenced early through projects on rangeland rehabilitation, afforestation, land management, irrigation and water resources management through assistance from France, Germany, Italy, FAO, UNDP, UNEP and others. However, the Government has not yet determined specific mechanisms to ensure funding for projects and programmes that will be formulated within the NAP under preparation.

The Syrian Government has so far not defined a suitable mechanism to get financial support for projects and programmes derived from implementing the National Action Programme to Combat Desertification in Syria.

Together with the efforts to formulate practical indicators to monitor implementation of the UNCCD, use should be made of the methodology developed by GORS, and other national institutions such as ACSAD and ICARDA.

TAJIKISTAN

After accession to the United Nations Convention to Combat Desertification (CCD) and its ratification, Tajikistan for the first time presents the National report on implementation of the Convention and on the work implemented regarding the problems of combating desertification according to the requirements of the CCD secretariat.

The process of preparation of the National report was going through several stages. At the first stage, the invitations for participation in the

interdepartmental meeting for discussion the struggle against desertification were sent to all interested ministries and departments, scientific institutes and public organizations. At the meeting, the representatives of the Government, Majlisi Oli (Parliament), the Ministry of Nature Protection, the Ministry of Agriculture, the Ministry of Melioration and Water Management, the Ministry of Health, the Committee on Land Resources, the Tajik Forestry Association, the Academy of Sciences, the Tajik Academy of Agricultural Sciences and the Public Secretariat on the implementation of CCD have taken part. As a result of the discussion, the participants of the meeting have defined the basic aspects of the preparation of the National report.

At the second stage of preparation of the report, the experts prepared the technical terms of reference with the detailed descriptions and sequence of implementation of works. Then each expert according to its terms of reference has prepared the appropriate part of the National report. All remarks and proposals submitted by the experts were considered for final preparation of the report by the scientific adviser.

At the third stage of preparation of the National report, on 16 March, the second meeting of the experts was organized with participation of specialists for the approval of the final version of the National report, taking into account the remarks and proposals of the Almaty meeting for the countries of Central Asia and Eastern Europe on preparation of the National report which was held on 23-24February 2000. It is necessary to note that the National report and its resume were initially written in Tajik and then translated into Russian and English.

The experts have noted the necessity of conducting similar meetings for the approval of decisions on the implementation and dissemination of ideas and requirements of CCD among wide layers of the population by means of the implementation of the National Action Program (NAP) in Tajikistan.

1. Strategy and priorities established within the framework of the plans and/or of policy of sustainable development

Tajikistan is rich in mineral resources; at the same time its economic situation is being influenced by the following factors: irregular location of settlements, cities and industrial sites; mountains; the under-development of a transport network; the prevalence of agrarian and raw material branches; etc. These factors do not contribute to the well-being of people and a rational use of natural resources. During the last years, shortage of food products and fuel forced population to cultivate steep mountain slopes and to cut down mountain forests. As a result, intensity of the development of desertification in many areas of the Republic has intensified. It also demonstrates a low stability of natural mountain environment to various natural and anthropogenous influences.

The Republic of Tajikistan, understanding the importance of provisions of the basic documents of CCD, despite complexities in its own economy, has joined the Convention on 12 August 1997. Consequently, the country's prime task is the development of a NAP to combat desertification, definition of a long-term strategy and practical measures on implementation of the local and nation-wide programmes. Preparation and implementation of the NAP is supported by all layers of population.

At present, the problem of desertification in the Republic remains very urgent and the Government of the Republic of Tajikistan pays great attention to nature protection issues.

2. Institutional, legislative and organizational measures

In the Soviet period several ministries, departments and scientific establishments dealing with agriculture, water management, health, industry, power, forestry, trade, construction, geology, etc., were involved in the management and implementation of a nature protection policy and the strategy of action.

In conditions of diverse influence on an environment and absence of a uniform supervising body, the pressure on the environment at the end of the 1980s has increased by several times. Activities of many institutions have induced the state to establish a coordinating and supervising body. As a result, in 1988 the Ministry of Nature Protection was established whose structure includes regional and district committees on nature protection.

The scientific researches in the field of protection of the environment is being carried out by several research, design and survey organizations, such as: the Academy of Sciences, the Academy of Agricultural Sciences, the Ministry of Nature Protection, the Forestry and Industrial Association, the Ministry of Water Management, the Ministry of Health, Department of Geology, etc. Now almost all basic ministries, departments, scientific establishments and public organizations implement plans and programmes related to the environment. In such a situation the most urgent problem becomes a question of coordination, which depends on all interested organizations and departments.

By decree of the President of the Republic of Tajikistan of 28 December 1998, No. 1144, the United Nations Convention to Combat Desertification was ratified, and the Ministry of Nature Protection was nominated as the National Coordination Body (NCB) on implementation of CCD. A coordinating body consists of representatives of interested ministries, scientific institutes, NGOs and other public organizations, including women's.

At a national seminar on implementation of the UNCCD, with the purposes of coordination of various bodies for preparation of the NAP, the Coordinator was appointed, who had experience of work in the field of rational use of natural resources. The Temporary Creative Group (TCG) was also established, comprising representatives of the Government, scientific, design, and public organizations.

3. Participation in support of the process of implementation of the programme of actions

After joining the CCD, awareness raising campaigns for the public were launched. In 1998 the national seminar was carried out which was the first step on the way of NAP preparation. The participants at this seminar came to a conclusion on the necessity of convening a series of regional conferences. The recommendations and conclusions of a seminar and regional conferences have formed the basis for NAP preparation. At the beginning the NCB has developed a strategy of information activity, taking into account the basic features of various layers of the population. Thanks to this strategy, the Public Secretariat on implementation of CCD for the representatives of NGOs was established.

To define a circle of the participants of NAP, the NCB, in cooperation with institutions, engaged in issues of desertification, and the Public Secretariat has organized four regional workshops. During these workshops, a number of issues and problems were defined which should have been taken into account at the First National Forum in preparation of the NAP. In April 1999 the First National Forum was held, at which the structure of the NAP was accepted.

Leading experts and scientists from scientific and industrial organizations and non-governmental organizations, both youth and women's, were involved in the preparation of reports for regional meetings and the First National Forum. The task of the regional meetings consisted in organizing effective consultations for regional and district organizations and local communities with a view to influence the decision-making process at various levels.

Apart from it, the Public Secretariat, with support from UNDP/UNSO, has carried out a number of republican conferences for women's, youth and other public organizations to provide information on the Convention to Combat Desertification. It has issued a series of leaflets and brochures about the value of CCD and on the causes of desertification and methods of struggle with dynamic processes.

Now in Tajikistan the first variant of the NAP is prepared. For approval of the programme, in the first half of the current year the Second National Forum will be organized.

4. The consultative process in support of the preparation and implementation of the National Action Programme and the partnership agreement with developed countries, Parties and other interested entities

Taking into account the seriousness of land degradation in Tajikistan, processes of desertification are of paramount importance for the Government of the Republic of Tajikistan. Consequently, now it is necessary to establish close relations with various international organizations and developed countries, with a view to conclude partnership agreements and to continue close contacts with other appropriate entities.

However, degree of support and activity of international organizations and developed countries in preparation of the NAP in the context of CCD in Tajikistan remains very low. Probably it is explained by some political developments in the country after the events of 1992 and economic instability. Therefore, implementation of the programmes of the NAP to combat desertification according to CCD should be supported, approved and carried out by the various parties.

Despite numerous problems of various character, which complicate the preparation and implementation of the NAP, the Coordinator of this programme and the Ministry of Nature Protection of the Republic of Tajikistan make efforts to attract the donors. Proposals on financing the NAP were circulated. The representatives of numerous international organizations, and a number of diplomatic agencies accredited in Tajikistan, were invited to take part in the First National Forum. But only a few international organizations participated in the National Forum and took an active part in the preparation of the NAP. One of them is UNDP, which takes an active part at all stages of process of NAP preparation.

The UNDP Office in Tajikistan coordinates the activity of donors. With the support of UNDP, a number of meetings on problems of desertification were organized with participation of all layers of the population and various regional, local and international organizations. All of the above-mentioned measures gave a push for development of the NAP. It should be underlined that it became possible due to the funds received from the Government of Finland through UNDP/UNSO and the secretariat of CCD. During preparatory work on development of the NAP, the constant advisory support was provided by the CCD secretariat, UNDP/UNSO, and also by neighbouring countries, which had the necessary experience.

In addition, financial and technical assistance in preparation of the NAP was provided by the Government of the country.

Taking into account previous experiences in combating desertification, effectiveness of anti-erosion and anti-deflation measures will depend mainly on active participation of the local population. The role of NGOs in the conditions of Tajikistan is very low, as the majority of them have no experience in combating desertification and until recently had no complete idea about desertification. The majority of NGOs were organized after Tajikistan became independent and their members were far from the problems of desertification.

However, after Tajikistan's accession to the Convention, the majority of non-governmental organizations of various types, such as women's, youth, professional, etc., began to participate actively in tackling various problems of desertification. In order to use more rationally public potential, the Public Secretariat, on realization of provisions of the UNCCD, united more than 30 ecological NGOs which started actively participating in implementation of ideas of the CCD.

Moreover, in preparation of the NAP, the experience of the local population was taken into account, which was revealed at the regional working meetings carried out throughout the country with the purpose of finding out the opinion of the population on the various issues of desertification.

5. **The measures taken or planned within the framework of the National Action Programme, including measures to improve the economic environment, to conserve natural resources, to improve institutional organization, to improve knowledge of desertification and to monitor and assess the effects of drought**

The active combat against various types of desertification in Tajikistan began in 30-40 years of the 20th century, when development of salted, swamped and deflated lands has been started. In 50-60th the State gave a special attention to the problems of desertification. During this period numerous research, planning and prospecting, building organizations were established with the purpose to study land-water resources of the Republic, to develop additional lands, to research various aspects of desertification. The work on combating water and wind erosion had begun.

But in the 1990s, in connection with the disintegration of the Soviet Union, instability in the Republic in 1992-1993 and economic recession, the work on combating desertification was almost stopped. In many regions the process of desertification has increased and became of a catastrophic character.

Therefore, it is necessary to include within the framework of implementation of the NAP, the following measures on the preservation and improvement of natural resources, and also on dissemination of knowledge about desertification:

- Creation of an information system on the problems of desertification;
- Organization of monitoring;
- Definition of the area, spreading, types, degree and rating of various categories of desertification;
- Drawing up a series of maps on desertification;

- Raising a role of the local population, NGOs, including women's organizations, through organizing practical seminars, round tables with the purpose of combining efforts for joint actions directed at combating desertification;

- Organization of stationary methods of desertification monitoring;

- Remote methods of desertification analysis;

- Zoning the territory of Tajikistan according to a degree of land degradation. It is necessary to establish creative collectives, with the purpose of improvement of a technique of drawing up zoning with the obligatory indication of complexes of anti-erosion and deflation measures of struggle;

- Development of recommendations and proposals on rational land tenure;

- Measures on rational nature use (soil cover, flora and fauna, forest resources, water resources, especially protected territories, energy);

- Improvement of anti-erosion and anti-deflation methods of struggle (forest melioration, agro-technical, hydraulic engineering);

- Development of methods of socio-economic mechanisms of combating desertification;

- Raising a role of international cooperation in the struggle against desertification;

- Improvement of nature protecting normative acts, etc.

The information received during the definition of priority directions of the NAP, assessment of the needs of NGOs, alongside with experience accumulated in the process of combating desertification, demonstrate numerous lacks in management and ability of mobilization of possibilities of NGOs, especially women's and various other NGOs unifying different layers of the population. To eliminate the above-mentioned lacks and to insure effective work with various layers of population, during the second stage of the implementation of the NAP special attention will be given to activating the work of NGOs, especially women's and youth. Especially since the Convention promotes such partnership, it is high time to strengthen work among the local population, suffered most of all from desertification.

6. Financial allocations from the national budget in support of implementation, as well as financial assistance and technical cooperation received and needed identifying and prioritizing requirements

During many years, the Government, while planning allocations for nature protection activities, paid special attention to combating land degradation. The activities on combating desertification were carried out basically by state. The Government allocated financial resources from the national budget, and at the international level, the activities on mobilization of financial resources were not carried out, as the NAP was not yet developed. During the first stage of NAP preparation, financing was carried out within the framework of joint efforts of the Government, UNDP/UNSO, the secretariat of UNCCD and country-donors (Finland, Switzerland).

With the purpose of the implementation of the approved programme on improvement melioration of irrigated lands in 1998-2003, the Government of the Republic will allocate the funds of 12 billion rubles (75 million US dollars).

The major factor for the improvement of the situation would be financial support from donors, both from the international organizations and developed countries, which should allow to put in action the planned Fund for combating desertification. It is necessary to note that the participants of the First National Forum supported the creation of the Fund for combating desertification in Tajikistan.

7. A review of the benchmarks and indicators utilized to measure progress and an assessment thereof

Preparation of an analysis of various types of desertification in Tajikistan was started in the 1930s and many results of research development, in particular, on the struggle against the salinization of land, have come in the world literature. However, at the present stage neither sectoral, nor academic institutions and organizations engaged in the collection and processing of information on an environment, and especially on desertification, can fully carry out its role. These organizations possess vast information on desertification, but it is not standardized. Each organization carried out the research by various methods taking into account its own aims. The available limited resources and personnel are divided between various services; use of their potential in many respects is limited. That's why there is a need for the creation of temporary creative groups.

Taking into account all the above-mentioned factors, it is proposed to establish a system of an exchange of the ecological information, thanks to which it would be possible to implement effectively the National Action Programme.

At present for the implementation of the provisions of the Convention in Tajikistan the first steps were made: popular /scientific articles, brochures, booklets, leaflet about the United Nations Convention to Combat Desertification are issued, and the NAP is being prepared.

Though the process of implementation of CCD in Tajikistan is being carried out with some delay, nevertheless, measures on combating land degradation, in particular, the struggle against water erosion, deflation and soil salinization, were being taken rather actively, and it seems that this work in the near future will rise to a new stage and by common efforts we would overcome numerous difficulties related to the "evil of the 21st century".

TURKMENISTAN

Turkmenistan, a new State on the political map of the world, proclaimed its independence on 27 October 1991. Turkmenistan is situated in the western part of Central Asia between latitude 38°08' and 42°48' north and longitude 52°27' and 66°41 east. The occupied area is 491,200 square km. Its population is 5.2 million.

The territory of Turkmenistan fully lies in the zone of Central Asian deserts and its nature conditions are characterized by extreme climate. Its northern territory is a part of the Aral Sea ecological disaster. In this connection, the country is actually under the pressure of desertification processes and this situation imprints on the whole economy and social sphere of Turkmenistan. Therefore, Turkmenistan pays great attention to the protection of environment for the purpose of preservation of health and the prosperity of people.

Due to the vast territory and the small number of the population, processes of desertification do not constitute a serious menace. Nevertheless, nature fragility and its extreme sensitiveness to man's activity set the territory of Turkmenistan into the zone of great environmental risk.

Taking into consideration the need for studying and working out techniques for complex development of dry lands, in 1961 an Institute of Deserts was established in the system of the Academy of Sciences of Turkmenistan. Its tasks included not only research work but coordination of working out the techniques on a scale of the USSR. Beginning from 1967 up to the present moment, an international scientific journal "Problems of Desert Development" has been published at the Institute of Deserts. From 1980, an English version of the journal has been published in the USA. Consequently, Turkmenistan has already obtained considerable and scientific experience before 1977 when a "World Plan to Combat Desertification" was passed at the international conference in Nairobi. Therefore, Turkmenistan joined the implementation of the Plan as an active member. From 1979 till 1991, International Scientific Training Courses functioned in Turkmenistan for improvement of knowledge in the sphere of desertification control for representatives of developing countries of Asia, Africa and Latin America. During 12 years (before the collapse of the USSR) 600 specialists from 62 countries had studied at the courses.

In 1995 Turkmenistan signed the United Nations Convention to Combat Desertification, and in 1966 the Parliament of the country ratified it. In the same year a Governmental Commission for preparing the National Programme to Combat Desertification in Turkmenistan was established. On the whole, appropriate ministerial structures, departments, scientific institutions, institutes, NGOs and rural communes were involved in the successful implementation of the Convention on the national level.

1. Strategy and priorities determined within the plans of sustainable development

Analysis of the land structure in Turkmenistan shows that 90 per cent of the territory is characterized by desert landscape, which serves as round-year pastures for sheep and camels. About 2 mln ha fall to the share of irrigated lands concentrated in oasis. Pasture farming in the country is one of the most profitable and least labor-intensive industries of the economy. However, pastures on the significant territory were deserted and have low fodder capacity. So, out of 39.5 mln ha of pastures, 69 per cent are degraded, 37 per cent are not flooded and 5 per cent have been transformed into bare moving sands. If now about 10 mln heads of cattle are being pastured, the appropriate phyto-ameliorative measures probably will allow to 2-3 times increase their productivity and bring up a cattle head up to 20 mln heads.

One of the key issues of sustainable development is the problem of water supply and irrigation. 100-150 mm of precipitation falls in Turkmenistan during a year mainly as rain, and evaporation more than 20 times exceeds precipitation. Hence, Turkmenistan suffers a great deficit of fresh water. Rivers have unstable run-off and do not meet the country's requirement in water. Therefore, search for additional resources of water supply for the growing economy and the population of the country is of great urgency.

Almost the whole plain territory of Turkmenistan belongs to sandy deserts formed by ancient deposits of the river run-offs, which are exposed to deflation. Dune sands formed during this process are of big harm to different valuable establishments. Railways and highways, irrigated land, canals, reservoirs, populated areas, pipelines, etc., suffer from sand drifts and deflation. Control of sand deflation and erosion give the possibility to preserve productivity of hundreds of thousand of hectares of land and run trouble free the important engineering constructions and people's life support establishments.

In regions of irrigated farming, a great disaster is the land salinization, an important factor of desertification. Currently 30 per cent of irrigated land is at the stage of high salinization, and 50 per cent of moderate salinization. Only 20 per cent of land are in more or less favorable ameliorative state. As a result of land salinization, agricultural crops capacity drops by 50 per cent and sometimes even lower. That means that a complex of measures should be performed in this direction including construction of a ramified drainage network.

The ecological situation in the Aral Sea basin has a negative impact on the sustainable social-economic development of the country. In this region the Dashoguz velayat of Turkmenistan is situated, in which the population suffers from drinking and irrigation water of poor quality, with which the development of different diseases is connected. The country pays a great attention to this region, provides a large financial and technical support. In 1998 the National Programme of Environment Protection in Turkmenistan was developed on the Governmental level in cooperation with the UNDP, in which measures for desertification control were defined, and now it is at the stage of implementation. Issues of desertification control are reflected in plans of the Ecological Fund of Turkmenistan, Nature Protection Society, NGO "Catena", Turkmen Geographical Society, etc.

In 1996 the State Fund for Nature Protection of Turkmenistan was established, which, within the limits of its possibilities, provides financial assistance to organizations for their nature protective activities. All these strategic trends and priorities are clearly determined in the Programme of the President of Turkmenistan - "Strategy of Social-Economic Reforms in Turkmenistan for the period up to the year 2010".

The main state executive body in the sphere of environment protection is the Ministry of Nature Protection of Turkmenistan.

2. Institutional, organizational and legislative measures for implementation of the National Action Programme to Combat Desertification

Protection and rational management of nature is one of the fundamental principles of the state policy of Turkmenistan. The Law "On Nature Protection", passed in 1991, underlies activities of all industries and aims at ensuring the priority of environmental interests of the society with regard to a scientifically grounded combination of social-economic and environmental problems. The Law stipulates actions of the State in extreme environmental situations, control in the sphere of nature protection, responsibility for violation of the nature protective legislation.

Laws "On state of especially protected territories" (1992), "On flora protection and rational management" (1993), "On fauna protection and rational management" (1997) were also passed.

The Law "On hydrocarbon resources" (1996) is aimed at ensuring rational and efficient management of oil and gas resources. On 6 June 1997, a Competent Body for Exploration of Hydrocarbon Resources at the President of Turkmenistan was established, which is a body of the State Government conferred with exclusive powers.

In 1996 the Law of Turkmenistan "On protection of atmospheric air" was passed, and in 1993 – a Forest Code of Turkmenistan aimed at creation of conditions for rational management of forests, their reproduction and protection.

The Law of Turkmenistan "On state ecological expertise", being passed in 1995, is aimed at ensuring environmental protection from disturbances.

There are a number of legal acts regulating nature protective activities: "On development of horticulture and planting of greenery in Turkmenistan" (1992), "On creation of park zone in the Kopetdag piedmont" (1998).

The Ministry of Nature Protection of Turkmenistan is entrusted with control and intersectorial management in the sphere of nature protection and rational usage of nature resources.

Turkmenistan has joined, and its Parliament ratified, a number of international Conventions on environmental protection: UNCCD, "On Biological Diversity", "Basle Convention of Transborder Transportation of Dangerous Waste Products", "Framework Convention on Climate Change", "Vienna Convention and Montreal Protocol on Ozone Layer Protection". For the purpose of the efficient meeting of Turkmenistan's commitments on the implementation of provisions of Conventions and United Nations programmes on environment protection, in March 1999 a State Commission was established with seven working groups.

In April 1999, Heads of State of Central Asia at the sitting of the International Fund of the Aral Sea arrived at a decision on accelerating stabilization of the ecological situation in the Aral Sea basin.

In the framework of the Caspian Environmental Programme (CEP), in May 1998 a Regional Thematic Center to Combat Desertification was established in Turkmenistan (Ashkhabad).

Among especially protected territories there are reserves, sanctuaries, national, historic-nature and memorial parks, nature monuments, botanic and zoological gardens, arboreta, natural territories for health improvement.

Protected territories do not yet cover all the main landscapes of Turkmenistan, but they concentrate the largest species diversity of flora and fauna of the State.

Protected territories represent the most unique landscapes of the country, where the monitoring of environment is executed.

3. Process of participation of State, non-governmental organizations and rural communes in the implementation of the National Action Programme to Combat Desertification

The National Action Programme to Combat Desertification in Turkmenistan was developed in 1996 with the support of UNEP and ESCATO and discussed at the National Conference. It was published in the journal "Problems of Desert Development" (# 1, 2000). In late 1996 it was approved by the State Commission on working out the National Action Programme to Combat Desertification and submitted to the Government of Turkmenistan for consideration, then submitted to the UNDP, the World Bank, the secretariat of CCD, UNEP, ESCATO and embassies of the USA, Germany, the UK, China and Iran.

In March 1999 a State Commission on ensuring the implementation of commitments of Turkmenistan, arising from the Convention and the United Nations programmes on the environment was established. The National Action Programme to Combat Desertification is tightly connected with the Presidential programmes "10 Year of Stability", "New village", "On planting greenery and horticulture". A project for creation of a shelterbelt around Ashkhabad, 140 km in length, was prepared and submitted to the Khyakimlik (Municipality) for its implementation. In October 1998 more than 2.5 mln trees were planted. Stabilization and afforestation of sands along highways of the Balkan and Akhal velayats is being performed.

An application was submitted to the World Bank for USD 219,000 credit for mini plant producing drinking water purifying devices.

Within the framework of the National Action Programme to Combat Desertification, two projects on problems of natural resources management in the central Karakum are being implemented with the support of the German Agency for Technical Cooperation (GTZ) and with the participation of the local population.

For decentralization of decisions on sustainable development of villages, the position of a head of the daikhans' association and elected position of archyn were united in Turkmenistan. He is at the same time a head of Gengeshi, which consists of population-elected aksakals (elders) and women – active and respected people – for solving all problems of village development.

In order to activate the local population for participation in planning of primary project tasks and optimum ways of their solving, the investigations, PRA surveys, workshops and competitions were held. Non-governmental organizations (NGOs) have been established in villages for different target groups with regard to gender policy. This work is done within the framework of the Memorandum of Understanding between the Government of Turkmenistan and the UNDP/UNSO. For the period 1999-2000, USD 50,000 have been allocated by sponsors to support the National Action Programme to Combat Desertification implementation. On 2-5 March 1999 an international seminar "Implementation of Convention to Combat Desertification and Convention on Biodiversity: a new approach" was held for solving regional desertification problems.

On 17 June 2000, a Conference is scheduled, devoted to the World Day to Combat Desertification, as well as the National forum before COP 4 starts.

Foreign partners mean to further provide organizational, technical and financial support for the National Action Programme to Combat Desertification implementation in Turkmenistan. In particular, under the initiative of the Secretariat of UNCU and under the financial assistance of the German Agency for Technical Cooperation (GTZ), in early 2000 a seminar was held, in which an issue was raised about the necessity of working out the most priority regional projects for the Central Asian region (CAR).

On 18-21 July 2000, a meeting of CAR representatives will be held in Bishkek. In its work the highest officials, national coordinators and representatives of non-governmental organizations will take part. The German Agency for Technical Cooperation (GTZ) could commit itself to be an intermediary between governments of the CAR countries and international financial institutions.

4. Consultation process to support the National Action Programme to Combat Desertification implementation

Having joined almost all conventions and agreements in the sphere of nature protection, Turkmenistan actively supports the deepening of international cooperation for implementation of the National Action Programme to Combat Desertification and obtaining effective practical results. Its participation in this cooperation on a bilateral or multilateral basis is founded on principles and conceptions resulting from national tasks.

Economic, scientific and cultural agreements of Turkmenistan with Germany, India, China, Russia and other countries stipulate the usage of the positive nature protection experience, joint issuing of books, posters, and information sheets in the sphere of desertification control.

In the implementation of the National Action Programme to Combat Desertification, Turkmenistan closely collaborates with GTZ, the UNCCD secretariat, UNDP/UNSO, with the Tacis on desertification problem within the

Caspian Environmental Programme, and with the World Bank on water supply and health protection. With the financial support of the German Government, the Publishing House "Springer" has published, in English, a book "Problems of arid lands and desertification control in Central Asia" of 18 printer's sheets. In accordance with the agreement between the Institute of Deserts of Turkmenistan and Research Institute of Arid Land of India, a book "The Karakum Desert and the Tar Desert" was published in English and Russian. The National Institute of Deserts is planning to prepare an Atlas of Desertification of Asia with participation of scientists of China, Mongolia, Iran, India, Kazakhstan and Uzbekistan.

During consultations and the implementation of an agreement on partnership in the sphere of desertification control, a new national approach in the preparation and planning of actions is used. It is a "bottom-up" approach. This means that people from rural communes have a full right to participate in the implementation of the programmes connected with the nature protection and sustainable development. Favorable relations developed between Turkmenistan and international organizations such as UNEP, ESCATO, the World Bank, USAID, UNICEF, etc. Due to financial assistance of the UNEP, in 1996 a book of Professor A. Babaev, "Problems of Arid Land Development" of 21 printer's sheets was published in English. Publishing House "Alerton-Press" in New-York regularly publishes an international scientific journal "Problems of Desert Development", six issues per year.

5. Measures planned or undertaken within the framework of the National Action Programme to Combat Desertification in Turkmenistan

To analyze the past experience in the sphere of desertification control, in 1994-1999 several books were prepared and published as follows: "International cooperation in desertification problem solving" (1994) in Russian and Turkmen, "Problems of arid land reclamation - National aspects" (1995-1996) in Russian and English, "Problems of deserts and desertification control in Central Asia" (1999) in English. In cooperation with GTZ, a project "Activation of the local population participation in desertification control and in sustainable development of a farm", is being implemented beginning from 1998 in the cattle-breeding farm "Erbent" situated in the Central Karakum. At the National Institute of Deserts, a Consulting Center to Combat Desertification was established which was equipped with modern computers, telecommunication facilities and software for operation of the Geographic Information Systems (GIS). Beginning from the year 2000, such work is being executed in the Sakarchaga etrap of the Mary velayat, in mountain settlements Nokhur of the Bakharden etrap of the Akhal velayat and in the Tagta etrap of the Dashoguz velayat.

The project UNDP/UNSO "Implementation of the National Action Programme to Combat Desertification in Turkmenistan" is at its final stage. UNDP project "Development of potential of countries of the Aral Sea basin" is being implemented.

For the purpose of intensifying a role of the local population in the implementation of projects and programmes in the sphere of nature protection, including the National Action Programme to Combat Desertification, seminars were organized in several farms of the Sakarchaga, Gyaurs, Bakharden and Tagta etraps, with the participation of labor veterans (aksakals), teachers, doctors, shepherds and farmers, women, schoolchildren, and representatives of the local authority.

In 1999 a Joint-stock Society "Gyok Gushak" (Green Belt) was established, which started a wide front of work for planting greenery and afforestation around all cities and populated areas. A six-row shelterbelt around Ashkhabad of conifers, deciduous trees, and fruit trees has been already planted. In general, during two years more than 6 mln trees have been planted in the country, which are carefully cared for. Nearly all ministries and departments, industrial and

agricultural associations, research institutions, students, pupils, citizens and countrymen take part in this activity. All expenditures for forest plantations are covered by the State. Forest planting is performed along linear objects – irrigating canals and highways. In early 2000 new railways and motor highways of 550 km of length, which will cross the Karakum Desert, have been built. The National Institute of Deserts, Flora and Fauna is entrusted with the scientific-methodological provision of ameliorative work.

The state commission has been established for the control of planting greenery work.

6. Budget allocations to support the National Action Programme to Combat Desertification in Turkmenistan

Turkmenistan, as a young State, continues suffering from the difficulties of the transition period. Therefore, the Government, for the time being, is not able to allocate the necessary budget means for the implementation of the nature protective measures, including desertification control. Nevertheless, a definite amount is envisaged in the national budget for implementation of the primary, extremely necessary, nature protective measures. In addition, the list of financial sources includes some ministries and departments (the Ministry of Agriculture and Water Management, the Ministry of Energy and Industry, the Ministry of Nature Protection, banks, companies, and khyakimliks) and foreign companies' investments in Turkmenistan.

An important role in nature protection has been played by a Decree of the President of Turkmenistan of 1993 on free natural gas, electricity and fresh water for the population. By the present time, almost 90 per cent of cities and populated areas are supplied with gas and 70 per cent are provided with water pipelines. All these measures allowed to sharply decrease the anthropogenic pressure on environment and to improve the ecological situation in the country.

Under bilateral and multilateral agreements signed between Turkmenistan and foreign partners, their executors are entrusted with nature protective measures that are also important for financial allocations (partners from the USA, Italy, Turkey, Iran, Israel, Germany, Japan and China).

In connection with the fact that the nature of the arid zone, even in natural conditions, is on the verge of degradation, larger budget allocations are necessary for successful implementation of the National Action Programme to Combat Desertification in Turkmenistan, mainly for purchasing technical equipment.

7. Criteria and indices used for analyzing and estimating results of implementation of the National Action Programme to Combat Desertification in Turkmenistan

Monitoring studies in Turkmenistan have a long history and started in 1912 when the Repetek sand-desert station was established. Later on the monitoring of environment was regularly performed in all eight reserves located in different landscapes of the country. Monitoring data allow scientists and specialists to determine the beginning and duration of desertification processes, to estimate their space-time dynamics and prove predicted conclusions on further development of environmental components. In the monitoring of desertification processes, in addition to the ground images, images obtained from artificial satellites "Meteor-Priroda" are widely used. These satellites are equipped with the facilities for survey in visible, infrared and microwave range of the spectrum.

For the analysis and estimation of results of the implementation of the National Action Programme to Combat Desertification in Turkmenistan, a database was created at the National Institute of Deserts, Flora and Fauna, which is an

informational-reference system. It contains a combination of information and computer programs, accumulated during a long time and necessary for scientific analysis, planning and implementation of the nature protective measures and for rational management of natural resources. The database uninterruptedly provides executors with necessary information or materials for environmental expertise and preparation of proposals for officials and for solving of forecast or management tasks.

The database on desert problems and desertification control contains information as follows: on topographic maps, on subject maps, on aerial and space images, on desertification processes analysis and estimation, on criteria and indices of current state and tendencies in desertification development, on world experience in desertification control, on international and partner cooperation and on bibliography.

The specialists of the National Institute of Deserts, Flora and Fauna have worked out techniques of monitoring and instructions for plotting maps of desertification, which were discussed and approved in appropriate departments of the UNEP, ESCATO and FAO.

On the basis of accumulated basis data, a chart of the current state of desertification on the territory of Turkmenistan on the scale 1:1,000,000 was prepared.

TUVALU

Tuvalu is a small atoll nation populated by around 11,000 Polynesians, located in the Central Pacific north of Fiji. The country is characterized by high dispersion, with a total of just 26 km^2 of land area distributed among nine islands over a sea area of 1.3 million km^2.

Tuvalu's location, small size and remoteness makes it a nation extremely vulnerable to climatic events and human impacts. In recent years, the country has seen the emergence of problems with drought and habitat damage. Although the overall climate is tropical-marine with a mean annual rainfall of 3000 mm at the capital of Funafuti, other islands in the group are experiencing periods of drought, particularly in the north. Problems with drought occur not only because of a lack of rain, but also because of the nature of the coral rubble and sand soils, the complete lack of surface water storage (no rivers, dams or lakes) and the very limited reserves of largely brackish groundwater.

In order to help it address these issues, the Government of Tuvalu signed the CCD in 1998. Although, to date, some reactive measures have been taken (such as the acquisition of a desalinator), very little strategic and pre-emptory action has been taken on issues of habitat degradation or drought, largely due to a lack of expertise and understanding. The country now wishes to begin addressing these problems through the international mechanisms of the CCD.

UNITED ARAB EMIRATES

Introduction:

Taking into consideration that the United Arab Emirates (UAE) are located within the arid west continent desert belt, the environment (as that of many of the arid and semi-arid environments in the world) is highly sensitive. The sensitivity is attributed to the delicate balance between various natural systems arid components such as climate, water resources, soil, vegetation, and biodiversity. Accordingly, its exposure to the impacts of aridity and desertification is considered as a recurring phenomenon.

The UAE, since its establishment, had not spared efforts to conserve its environment, develop natural resources on a sustainable basis, and combat desertification. The UAE considered this as one of its development pillars and thus was able to accomplish great achievements in various fields related to environment and desertification. These achievements would not have been possible without the wise policies that His Highness Sheikh Zayed Bin Nahyan developed when dealing with environmental issues. His Highness Sheikh Zayed Bin Sultan Al Nahyan, the President of the UAE, highlighted this interest in his message to the Earth Summit in 1992, as well as in the UAE country report to the UNCCD Conference of the Parties in 1997.

The establishment of the Federal Environmental Agency (FEA) in 1993 reconfirmed the UAE interest in the environment and constituted a major step towards consolidating the role of the federal government in addressing environmental concerns within the country. This included the preparation of the National Environmental Strategy and the National Environmental Action Plan and the National Action Plan to Combat Desertification (Draft). The objectives, scope and contents undertaken by the FEA are summarized below:

I. The Nations' Strategy and the National Plans for the Environment and Combating Desertification

Part One: Priorities For Environmental Action (National Agenda 21)

The National Environmental Strategy and the National Environmental Action Plan of the UAE were developed in the context of the National Policies for Conservation, sustainable development of natural resources, combating desertification and fulfilling the commitments of Agenda 21. UNDP and UNESCWA cooperated with the FEA to develop the National Environmental Strategy and the Environmental Action Plan.

The first report, completed in December 1998, represents an integration of the sectoral reports prepared by ten sectoral work groups that addressed environmental aspects and development in the UAE. The report is divided into six chapters as follows:

UAE, geographical characteristics;

Elements of sustainable development;

Elements for planning an Environmental National Strategy and National Environmental Action Plan;

Major environmental issues in the UAE;

Environmental capacity-building in the UAE;

Priorities for environmental actions in UAE.

Part Two: The Development of the National Environmental Strategy

The National Environmental Strategy, which was completed in December 1999, includes strategies that were developed by the 10 sectoral groups representing various environmental and developmental aspects in the UAE. These sectoral strategies are based on priorities identified by the sectoral groups in the first report, which are:

- Availability of fresh water resources;
- Combating pollution (water, air, waste);

- Conserving the marine environment;
- Conserving the urban environment;
- Conserving terrestrial resources, and biodiversity.

Sectoral strategies are synthesized into a National Environmental Strategy reflecting objectives and policies and comprising seven chapters:

Chapter 1: Introduction: environmental characteristics and environmental strains in the UAE;

Chapter 2: National Environmental Strategy for Water Resources;

Chapter 3: National Environmental Strategy for reducing air and water pollution problems;

Chapter 4: National Environmental Strategy for Problems of marine environment;

Chapter 5: National Environmental Strategy for Problems of urban environment;

Chapter 6: National Environmental Strategy for land resources degradation and biodiversity;

Chapter 7: National Environmental Strategy for capacities and awareness.

It is obvious that all the strategies described above are related to desertification in one way or another, but more specifically in Chapter 6.

Part Three: The Draft National Action Plan to Combat Desertification in the UAE

The UAE, in cooperation with UNEP/ROWA and ESCWA, prepared a draft National Action Plan to combat desertification. The plan was completed by the end of 1995, and has not been yet implemented, hoping to integrate it with the National Environmental Strategy and the Environmental Action Plan which are to be completed. Integration of the three programmes will ensure addressing environmental issues in a balanced and comprehensive manner.

The plan comprises the following elements:

Chapter (1): Listing of the natural resources and their potentials;

Chapter (2): The socio-economic set up;

Chapter (3): Past and present efforts in combating desertification;

Chapter (4): Includes the "National Action Plan for Combating Desertification". Eight programmes were identified in the strategy:

a. Monitoring and assessment;

b. Water resource management;

c. Public awareness and participation;

d. Rational agriculture;

e. Security against drought;

f. Promoting scientific and technological capabilities;

g. Promoting national capacity building programmes;

h. Consolidating federal, regional and international cooperation.

Chapter (5): Capacity-building;

Chapter (6): Identification of priority short-term (5 years) programmes during 1994-1999 which amount to about 27 projects.

II. The National agency responsible for implementing the agreement

The UAE has assigned FEA through ministerial Decree No. 41452 in 1997 to follow up the implementation of the UNCCD at the federal, subregional and international levels. The UAE acceded to the UNCCD in 21 October 1999 and became a member in 19 January 1999. Work is ongoing to institutionalize a National Committee, formed by representatives of around 20 ministries and other national and private organizations concerned with desertification. This National Committee will follow-up the implementation of the Convention and prepare a national strategy and action plan to combat desertification in accordance with the National Environmental Strategy and the Asia Annex of the Convention.

III. The Legal and Legislative Framework for Protection of the Environment

In absence of a Federal Environmental Act, the UAE issued Law No. 24 concerning Environmental Protection and Development in 1999. It includes nine chapters concerned with protection and conservation of renewable natural resources such as water, soil, and natural reservation. It has 101 articles addressing the following objectives:

1. Protection of the environment and conservation of its quality and natural balance;

2. Combating pollution in all forms, and avoiding any damage or long-term impacts as a result of any economic, agricultural, industrial urban development programmes intended to raise the standard of living and promoting cooperation between the Federal Environmental Agency and other governmental organizations concerned with the protection, and conservation of the environment and to consolidate environmental awareness and pollution combating principles;

3. Development of natural resources and a sustainable biodiversity in the UAE through utilization in the most efficient and sustainable manner for the benefit of the present and future generations;

4. Protection of human health, other living creatures from impacts related to activities and actions that are damaging to the environment;

5. Protection of the environment of the UAE from impacts of activities carried out beyond the borders of the UAE;

6. Implementing provisions in approved international and regional agreements related to environmental protection, combating pollution and conservation of natural resources.

IV. Institutional Framework to conserve the environment

The organizational structure suggested for the FEA comprises several directorates made of sections among which is the agricultural activity and combating desertification section. Similar units are also operating at the state level, reflecting the interest of the country in conserving the natural resources

and combating desertification. In order to provide adequate coverage, the Government actually pursues capacity-building through local training programmes and external scholarships for obtaining higher degrees in areas relevant to combating desertification.

V. Integration of Combating Desertification programmes into the National Environmental Strategy

At the implementation level, the UAE's interest in combating desertification is highlighted in the first and second parts of the National Environmental Strategy. In addition, the chapter that is related to agriculture and land resources includes objectives, policies and measures that are needed to conserve land resources and to combat desertification. The activities of the National Environment Strategy are developed to include activities related to combating desertification and reducing the impact of aridity. Once the National Action Plan to combat desertification is completed and approved, it will be integrated into the National Development Plan.

VI. Subregional, regional and international cooperation in combating desertification

The UAE has participated in subregional and regional meetings, e.g.: the Subregional Action Plan meetings for West Asia, as well as the Asian regional meetings. The regional and subregional programmes have emphasized the need to harmonize their programmes with the goals of National Action Plans that include monitoring and assessment of desertification, early warning for drought and desertification, water resource management, capacity-building, developing rangelands and forests, and fixation of sand dunes, etc.

At the national level, a survey of the coastal area of the UAE was conducted using field surveys. The UAE is also participating with the GCC countries in preparing a draft project to survey and evaluate rangelands and forests in these countries. The UAE is also actively participating in the Steering Committee to Combat Desertification of CAMRE. The committee, in cooperation with subregional and regional organizations, was able to implement several projects in the framework of the programme for Combating Desertification and Mitigation of Drought effects. The committee will also link national programmes with subregional and regional programmes to benefit from the available capabilities and expertise.

VII. Activities relevant to Combating Desertification that have been implemented

The main activities relevant to combating desertification and conservation of natural resources include:

- Developing laws and regulations relevant to conservation and sustainable management of the environment and renewable natural resources;
- Preparation of the National Atlas that includes geographical and geological general information;
- Conducting many surveys on ground-water resources;
- Surveying the number of Aflaj and identifying the quantity of their water productivity;
- Developing wastewater treatment plants with an annual production capacity of 108 million cubic meters;
- Afforestation areas have been developed and reach 300,000 Dunms;

- Establishment of several natural reservations on islands and remote desert areas;

- Dubai, AI Ain, Shwjah and Abu Dhabi. Municipalities have prepared land-use maps defining agricultural, urban and public areas;

- Agricultural policies in the UAE have been geared to encourage rational use of natural resources and achieve the highest level of yields. Also, there is a common agricultural policy for WC which was drawn in 1984 and amended in 1999;

- A National Committee will be formed to carry out the action programmes to combat desertification. However, the need arises both at UAE and GCC levels for technical assistance from donors and international organizations. However, UAE intends to include these technical needs within programmes prepared for combating desertification.

UZBEKISTAN

1. **The profile of the country, strategies and priorities established within the framework of sustainable development plans and/or policies**

The issues of desertification and drought control hold top priority in securing sustainable development in the Republic of Uzbekistan, where deserts and semi-deserts occupy 80 per cent of the territory.

About 10 million hectares of rangelands require radical improvement. Overgrazing and cutting of forests for firewood and other purposes led to a considerable reduction in the arboreal-shrub vegetation in the desert zone. Since 1965 the area of woodlands has decreased by half.

Shifting sands occupy approximately one million hectares in the Republic of Uzbekistan. Only recently they spread out to the area of 200,000 hectares along the margins of irrigated lands, thus creating a serious threat of intensification of desertification processes.

Land degradation is also taking place on irrigated lands involved in agricultural production. Over 50 percent of irrigated lands are subject to secondary salinization. Water erosion has affected over one million hectares of ploughlands.

The past quarter of a century has witnessed an unprecedented degradation of the Aral Sea, one of the world's largest land-locked water bodies. Its water level has dropped by 17 metres, and its water surface has shrunk by more than half. The dried-out seabed has become the arena of a new sand and salt desert with an area of over 30,000 square kilometres. Change of climate, landscape, fauna and flora, as well as increasing salt and dust transport in the Aral Sea littoral area and the surrounding territories have intensified desertification processes in that region. The deterioration of the environmental situation has both direct and indirect impact on the quality of life and health of 35 million people living in the Aral Sea basin.

This explains the active participation of the Republic of Uzbekistan in the preparation and implementation of the United Nations Convention to Combat Desertification. The Republic of Uzbekistan was the first country in Asia and the CIS to ratify the Convention. It participated actively in all phases of its preparation.

UNEP has given the Republic of Uzbekistan both financial and technical support in designing the National Action Plan to Combat Desertification in the

country. A wide range of prominent Uzbekistani scientists and professionals were involved in drafting the text of the National Action Plan. A number of workshops were held in the city of Tashkent and the areas most severely affected by desertification, namely, Bukhara, Samarkand, Urgench and Karakalpakstan.

The workshops have permitted the involvement of local communities, NGOs, students of institutes of higher education (soil specialists, land surveyors, hydraulic engineers, etc.) in implementing the Convention at the national level. The Government of Uzbekistan has already launched a number of projects aiming to combat desertification. They are related to the provision of rural population with clean drinking water and gas, and development of small-scale power engineering using alternative energy sources. A lot is being done in changing farm crop patterns, reducing the cotton mono-culture, and increasing the area of land under cereals, vegetables and forage grasses.

However, difficulties of the transition period do not permit to implement all measures required for preventing land degradation resulting from human-induced impact in full measure. One of these problems is secondary land salinization caused by a deficit of water resources. It is necessary to develop desert monitoring based on modern geographic information systems and intensify control over a wise use of land.

2. The institutional measures taken to implement the Convention

In 1995 the Oliy Majlis (Parliament) of the Republic of Uzbekistan ratified the United Nations Convention to Combat Desertification. A steering committee for designing the National Action Plan to combat desertification and drought was formed, and the text of the NAP was prepared. Glavgidromet was identified as the national focal point. On behalf of the Government of the Republic of Uzbekistan, it takes an active part in implementing the CCD at the national and local levels. The legislative regulation of environmental relations is based on the Constitution of the Republic of Uzbekistan, as well as the laws, edicts and regulatory acts of the President and the Government, international commitments and departmental acts.

3. Participatory process

The Steering Committee for designing the National Action Plan included representatives of Glavgidromet, the State Committee for Science and Technology, the State Committee for the Protection of Nature, the State Forestry Committee, the Chairman of the Council of Ministers of the Republic of Karakalpakstan, the Ministry of Agriculture and Water Resources and institutes of the Academy of Sciences of Uzbekistan. Scholars, professionals from ministries and departments, university professors and NGO representatives participated in drafting the text of the NAP. Regional workshops were conducted, which involved a wide range of stakeholders in designing the NAP.

Financial support of the Government of Finland and logistical assistance of the UNSO and the UNDP Office in Uzbekistan permitted to implement a project promoting actions aimed at desertification control. Workshops were held under the project in the areas most affected by desertification. The workshops were held at the state universities of the cities of Bukhara, Samarkand, Urgench and Nukus, which permitted to place the desertification problem in the focus of the attention of professionals, researchers, professors and, what is most important, students. Graduate students will constitute the main labour force that will tackle the implementation of the programme to combat desertification at the local level. Reports on regional desertification problems were presented at the workshops. The workshops nominated representatives to attend the National Forum held in Tashkent. Representatives of the CCD secretariat, UNDP, ministries, universities and NGOs took part in the Forum. The mass media gave extensive coverage to the Forum. The participants also stressed the need for international assistance in implementing the Convention at the national level.

4. The consultative process in support of the preparation and implementation of the National Action Plan and the partnership agreement

Active support is given by the CCD secretariat, permitting representatives of Uzbekistan to attend international meetings which help them identify priority areas for action. Uzbekistan participates actively in thematic networking, preparing materials and transmitting information at the request of TPN centres. Representatives of various countries provide their materials and participate in workshops on desertification problems and wise use of water resources.

Uzbekistan is conducting targeted work to address the repercussions of the Aral Sea disaster. International agreements have been concluded to this effect. Projects supported by international organizations are underway. However, the Aral Sea crisis has affected not only its littoral area but also the entire Central Asian region, the main reason being the water resources deficit.

The NAP includes priority projects requiring financial support from international agencies and donors. Implementation of these projects will permit to gain new experience in controlling land degradation and apply it at both the national and international levels.

5. The measures taken or planned within the framework of the National Action Plan

Considering the importance of land as a natural resource, the land surveillance service and land-use inspection have been separated from the Ministry of Agriculture and Water Resources. They provided a basis for establishing the State Committee of the Republic of Uzbekistan for Land Resources, subordinated directly to the Cabinet of Ministers.

Active participation of independent Uzbekistan in major international environmental conventions and nature protective activity of international governmental and non-governmental organizations is largely determined by the extent to which the provisions of these conventions and agreements are taken into consideration in national laws and regulatory acts.

Nature protection programmes have been designed and are being implemented in Uzbekistan. They are closely related to desertification control and they are:

National Programme to Stop the Use of Ozone-Depleting Substances (ODS)

The aim of the National Programme is to meet the commitments stemming from the Vienna Convention and the Montreal Protocol on Ozone-Depleting Substances.

National Strategy and Action Plan to Preserve Biological Diversity

The main priorities of the National Strategy and the Action Plan are as follows:

- Establishment of a National Commission on biological diversity;
- Assessment of the current state of biological diversity;
- Reorganization and development of a network of specially protected territories;
- Division of responsibilities in managing biological resources;
- Public awareness and participation in preservation and non-destructive use of biological diversity;

- Specific interventions and mechanisms of non-destructive use;

- Calendar plan, funds and their sources.

Uzbekistan: Study of Climate Change in the Country

This national project of capacity-building to enable Uzbekistan meet its commitments under the Framework Convention on Climate Change conforms to its goals.

Aral Sea Basin Programme (ASBP)

Design of the Programme started in 1994 following a donor meeting in Paris under the World Bank auspices, and is coordinated by the International Fund for the Aral Sea.

Phase I of the Programme attached priority to the design of the *Strategy of Rational Water Use and Protection of Water Resources in the Aral Sea Basin* as well as to the interstate projects 'Clean Water' and 'Sanitation'. Implementation of these projects has started in Uzbekistan, Kazakhstan and Turkmenistan. Phase II of the GEF Project, within the framework of the Aral Sea Basin Programme, began in July 1998.

The National Environmental Action Plan for the Republic of Uzbekistan

The Action Plan is primarily intended for the public health and the environmental sectors that act as the main forces in planning and implementing national actions in this area, in collaboration with other sectors and social groups.

Creating Favourable Conditions for People's Life

The economic reforms launched in the country attach great importance to the improvement of living conditions of the rural population and its provision with clean drinking water and natural gas. The following programmes have been prepared and are under implementation: the Rural Infrastructure Development Programme, the Programme of Providing Rural Population with Drinking Water and Natural Gas and others.

6. Financial allocations from national budgets in support of implementation as well as financial assistance and technical cooperation received and needed, identifying and prioritizing requirements

The national budget stipulates for funding interventions to combat desertification in the form of targeted programmes to be implemented by relevant national ministries and departments. Scientific research is conducted by research institutions with the support of the State Committee for Science and Technology. The submitted report has been prepared with the support of the CCD secretariat ($4,000).

The National Action Plan to Combat Desertification was designed with UNEP financial and technical support in the amount of $60,000.

Regional workshops and the National Forum in Tashkent were held with the financial assistance from the Government of Finland and UNSO technical support ($50,000).

Representatives of Uzbekistan attend international workshops and meetings thanks to the support of the CCD secretariat.

Difficulties of the transition period prevent Uzbekistan from implementing a number of projects to combat desertification; therefore, to implement priority projects, the NAP requires financial assistance from international donors.

Assistance from the international community is especially required for designing and implementing regional programmes and projects.

7. Review of indicators

A comprehensive paper was prepared, presented and discussed on the need for and role of a national environmental information system in combating desertification in Uzbekistan. It identified many facets and sets of data that are needed for the diagnosis and effective control of desertification. These sets of data are scattered in many organizations, in government, and international organizations. All are of different forms and formats and of varying qualities. It was proposed to strengthen the important and crucial institutions so as to improve their data sets and have the capacities to network and facilitate the exchange of data and information.

VIET NAM

Nowadays environment protection is not only an important national own interest, but also a great global concerned aspect. In Viet Nam, this issue has become a great concern of the State since the 1980s. It has also been mentioned in the Constitution of the Socialist Republic of Viet Nam since 1980. The National Action Programme on Environment and Sustainable Development for the period 1991-2000 and the Law on Forest Protection and Development approved in 1991 had set a very important start for the follow-up activities in environment protection progress in Viet Nam.

Recognizing the important global meaning of environment protection, Viet Nam has signed and become a member of several conventions on environment protection and the 134th country member of the Convention to Combat Desertification (since August 1998).

Viet Nam has long and narrow deserts. The yellow and white sand areas are located along the central coastal areas with 400,000 ha and in Cuu Long River Delta with 43,000 ha. According to a map drawn by FAO and UNESCO, there are about 462,000 ha of coastal sand areas (1.4 per cent of the total geographical area of the country) and 87,800 ha out of this are the yellow sand dunes. The sand areas are concentrated in 10 central coastal provinces from Quang Binh to Binh Thuan with the total area of 400,000 ha. During the last 32 years (1967-1999) there has been a serious desertification process. Every year, there is a loss of 10-20 ha of agriculture land due to the sand dune moving. In the above-mentioned provinces there is a very arid hot climate with annual rainfall only 500-700 mm (the arid hottest is Binh Thuan province).

Besides sand areas, there are more than 2 million hectares of degraded land scattered all over the country. This degradation happens mainly in northern mountainous areas. The desertification process is summarized and characterized by the following factors:

- It is the process of land degradation, unfertile for flora growing;
- It is the result of deforestation by inappropriate agricultural practices, extensive logging and chemical use during the wars;
- It is the cause of soil erosion;
- It is caused by unsustainable land use;
- It is caused by extensive water use;

- It is caused by sand dune moving;

- It is a result of water and soil pollution;

- And it is the impact of extensive silvopastoral practices.

Nowadays in Viet Nam there are still about 7 million hectares of bare land. The fertility of soil has been dropped or seriously degraded. Forests have been seriously depleted. The forest cover is today only 33 per cent, 10 per cent less than the one in 1945. Deforestation happened seriously in the two periods: 1960-1970 and 1976-1990. The underground water has been deteriorated in quantity as well as in quality, mainly by water exploitation for coffee production in Central Highland. Water has also been polluted by the chemical industry. It is estimated that the lack of water will be a serious problem in the next decade. During the last five years, drought has happened more seriously in the whole country, but especially in the central region. The most serious and longest drought over the last 60 years happened and lasted six months during the dry season of 1998 due to the El Niño, which had caused a very bad impact on agriculture and forestry in eight provinces of the central coastal region and Central Highland. Land cracking and soil erosion have also become more and more serious in Cuu Long river delta. A survey has recorded 51 cracking points with 350 ha of land lost every year. It is estimated that the total land lost by cracking and erosion will reach 10,000 ha. Sea resource exploitation has also been another reason for water and land pollution. Sea products have been mainly exploited near coastal areas by the use of poisonous chemicals or explosives. Oil is the main chemical causing water and soil pollution (during the period 1992-1996, the oil content in the sea water increased from seven to 20 times).

Since 1989, the economic system has changed from the concentrated planned mechanism to market oriented mechanism. And since then several programmes and projects not only in socio-economic development but also on environment protection have been intensively implemented. Viet Nam, since that time benchmark, has not only presented its great progress in hunger eradication (today as the third biggest country of the world in rice export, in 1999 with 4.55 million tons) but also committed its responsibilities in global environment protection propagation. The year 1990 has been the milestone marking a significant achievement of Viet Nam in environment protection. A number of laws relating to the desertification combating process had been formulated during the period 1990-1998. Viet Nam has stressed its responsibilities/commitments in joining the world in global environmental issues by signing agreements to become a member of several international conventions on the environment. A number of programmes and projects have also been intensively implemented since 1990.

Beside great achievement, there are still, however, many problems and constraints caused by the economic changes. There is still a lack of adequate knowledge of people on environment protection. Environment protection is still not mentioned as the major issue to be taken in many provincial plans on socio-economic development. A more appropriate policy system for environment protection is still to be adjusted and adopted. The Decree 36-CT/TW, June 1998, of the Communist Party to strengthen activities on environment protection in the modernization and industrialization period has developed the strategy to adopt the environment protection as an important issue of every national socio-economic development action.

In this situation, being a member of several international conventions on environment issues, as well as of UNCCD, is an essential further step of Viet Nam in joining the global environment propagation and in setting up long-term strategies of the country on environment protection and sustainable development.

The national report has followed exactly the Guidelines of UNCCD, decision 11 of COP 1. It has drawn briefly the main information on environment protection as well as in land conservation, forest protection and development,

water conservation and sand dune fixation activities of Viet Nam. This report is the result of the collaboration/cooperation among the representatives of the Government Office; the Ministry of Foreign Affairs; the Ministry of Planning and Investment; the Ministry of Science, Technology and Environment; the Ministry of Agriculture and Rural Development; the Viet Nam Forestry Science Association; UNDP; FAO and the executing agencies of international programmes and projects ongoing in Viet Nam. The report is also the result of a National workshop with the participation of many other social, economic, environmental sectors and institutions relating to the environment protection and sustainable development in Viet Nam.

The main content of the report is divided into eight parts:

1. Summary;

2. Strategies and priorities established within the framework of sustainable development plans and/or policies;

3. Institutional measures taken to implement the Convention;

4. Participatory process in support of preparation and implementation of action programmes;

5. Consultative process in support of the preparation and implementation of national action programmes and the partnership agreements with developed country and other interested entities;

6. Measures taken or planned within the framework of national action programmes;

7. Financial allocation from national budgets in support of implementation as well as financial assistance and technical cooperation including their inflows, and the process to identify their requirements, areas of funding and set a priority;

8. Review of benchmarks and indicators utilized to measure progress and an assessment thereof;

The priorities and strategies of the country relating to desertification combating are indicated as follows:

- Population growth control to release the pressure on natural resources;

- Sustainable management of natural resources;

- Forest protection and development;

- Urban and industrial zones development planning;

- Research, training and extension activities on environment;

- Disaster control and forecasting system;

- Planning and policy formulating on environment;

- Control the process of desertification, forecast the impacts of this process to the most endangered provinces/areas and support these localities in setting up a socio-economic development plan with environment protection concern.

The report also draws up some models on sand dune fixation along the central coastal areas, of which the successful implementation is the result of Professor Lam Cong Dinh's works on application of some specific species for sand dune fixation as *Casuarina equisetifolia* and *Azadiracta indica* in setting up forests against sand dune moving in some central provinces of Viet Nam. Professor Dinh has been nominated for the Ho Chi Minh Award in 2000.

The report stresses the important role of local people and women in activities related to desertification control. If the programmes and projects on environment protection are not implemented by local people, they will hardly be successful.

The report has also mentioned a tentative organization structure of the National Coordination Body and the proposed National Focal Point and the mobilization of organizations and people to participate in the National Action Programme on Environment.

The important role of international cooperation and the necessity of integrated programmes/projects on the environment to high up the efficiency of the cooperation have been emphasized. The great contribution in terms of financial support and technical assistance by international organizations, by government and non-government organizations in activities on desertification combating in Viet Nam has also been highly appreciated.

YEMEN

Desertification is one of the problems threatening the lands of the Yemeni Republic and other natural resources. Such land deterioration accelerated due to the increase of pressure on limited natural resources, resulting in a decrease of production. Desertification appears in different forms. Recent estimates indicated that 97 per cent of Yemen's Republic is affected by various degrees of desertification. Consequently, the Government of the Republic of Yemen quickly signed and ratified the United Nations Convention to Combat Desertification and works in close cooperation with the international community that aims at combating such detrimental natural phenomena. This summary sheds light on efforts carried out by the Republic of Yemen to implement this Convention:

1. Strategies and priorities established within the framework of sustainable development plans or strategies.

The Republic of Yemen set within its strategies and priorities the establishment of sustainable development projects. Some of these projects are concerned with combating desertification, such as the implementation of the national plans that covers a five year plan for social and economic development (1996-2000). These include conservation of water resources, development, and wise management, along with other environmental subjects. Most of these plans have been implemented, with some remaining activities still under implementation until today.

With reference to the national plan for environmental measures, priorities were determined for environmental problems in Yemen. They address soil and natural resources deterioration, over exploitation of the water table and water pollution.

The Republic of Yemen prepared a Desertification control plan. This plan was considered the main reference of combating desertification for all international, regional, and national organizations. The Republic of Yemen implemented a number of projects related to combat desertification in different areas of the Republic, aiming to control soil erosion, sand dune stabilization, land classification for agriculture use, forestry development and a general

increase of green areas. At present, a number of projects are under implementation, as well as there are numbers of future projects distributed in different zones of the country. All above-mentioned projects aim at controlling desertification. One of the most important issues related to desertification is poverty alleviation which aims at developing areas depending on local community strategies, in such a manner, to hand over control to local communities. Since 1998 a water strategy is under implementation which aims at addressing the acute imbalance between people and water resources.

2. Measures taken to implement the Convention.

The GDFDC was appointed NCB, because it was considered the national authority involved in the implementation of different activities such as management of forestry-range resources and Desertification control. Implementation of the Convention within GDFDC is carried out in two ways, as follows:

(a) Focal point (FP): the General Director of GDFDC was appointed Focal Point to follow up on the development and progress of implementation of the Convention at national, subregional, regional and international levels;

(b) National Network to combat desertification: This network includes members from varicus governorates within the Republic of Yemen. It carries out the collection and updating of information with respect to Desertification control and easing the strain of affected areas, which have priority in Desertification control, contribution in evening extension gatherings linking and coordination the affected areas. Enlarge this network by including a number of governmental and non-governmental corporation concerned with desertification control, communication and coordination between members of the authority and people concerned is achieved by running activities through direct communication or fast facilities available such as telephone or fax; communication with subregional, regional and international organizations is achieved through fax, mobile telephone, e-mail and internet.

The authority is implementing the national work programme and similar activities in desertification control, strengthening capacities for forest, range management, watershed, preparation of maps and supporting the contribution of non-governmental organizations, particularly women associations, agricultural cooperation unions in desertification control.

3. Participatory process in support of preparation and implementation of action programme

It is not possible to create sustainable development plans without integrating national stakeholders into development strategies. It should be recognized that there is a shortage of quantitative and qualitative information on conditions of natural resources in the country. As a result, there is a shortage in education about environmental deterioration and its impacts. Another shortage lies in the preparation and implementation of a national programme of work. It is to be noted that awareness and involvement increased over the last period of time as a result of efforts exerted by the GDFDC. Such achievements targeting large sectors of the society resulted in an improved awareness and the public more readily recognizes in areas such as desertification. Efforts are exerted by Broadcasting, Education, Awkaf, Extension, Youth, Sport Sectors and Environmental Protection Council (EPC).

It is worth mentioning that the Republic of Yemen received aid from the Kingdom of the Netherlands for implementing a project in Policy Gender in

Agriculture and Food Security. This assistance was granted based on the belief that the role of women and their contribution in protecting and managing natural resources, as well as in desertification control in general, is important.

4. Consultative process in support of the preparation and implementation of national action programmes and partnership agreement with developed country parties and other interested entities

The Republic of Yemen is working in desertification control with regional and international agencies, through the implementation of different bilateral or multilateral desertification control projects, or research working plans, such as five year plan projects related to desertification control. Also, an invitation was forwarded to developed countries to participate in national workshops concerning desertification control, rehabilitation of deteriorated natural resources, reactivation of the women's role and people's contribution. The main on-going activities with those agencies are:

(a) Sustainable environment management programme: This programme consists of seven subprogrammes. It aims at building capacities for a number of government corporations, non-governmental organizations in environment management, soil deterioration and sustainable utilization of natural resources;

(b) Soil and water conservation project: This project aims at maintaining terraces, implementing an appropriate watershed management and sand dune stabilization;

(c) Environment protection project in Tihama: This project aims at strengthening the Government's programme of improving the living standards within rural areas;

(d) Sustainable Environmental management project: This project aims at building up administrative capacities for the national authority of water resources;

(e) Forestry development project: This project aims at strengthening GDFDC in developing plans concerned with the forestry sector, extension regulations and the collection of information about natural resources and its management.

(f) To fulfill called regional and international counterparts to participate in a number of workshops, mainly "The National Conference on Desertification Control", "National conference to review the National Plan to control Desertification and two technical workshops", (first and second) for the preparation of national policy in watershed.

5. Measures to be taken or planned within the framework of national action programme

The Republic of Yemen prepared a National Action Plan to control Desertification in cooperation with UNEP & ESCWA. This plan was considered the foundation for subsequent national work in desertification control. This plan includes eight programmes and 41 projects focusing on evaluation, common contribution, correction measures for desertification control along with socio-economic, insurance against drought implementation of proposed or planned procedures in desertification evaluation, improvement of range, general contribution, systematic procedures on desertification control, curing socio-economic sides, measures aimed at preventing droughts, strengthening science and technology and international cooperation in desertification control.

The plan includes a number of measures aimed at improving institutional structures and strengthening the level of awareness. The following measures were taken to achieve these goals: the development of GDFDC, the improvement of environmental protection, establishments of funds for agriculture and fish production, water resources authority and reactivation of the high tree planting committee.

Future plans are: to establish the National Committee for Desertification Control in which all related ministries, organizations, official, social and voluntary associations of concern will be represented.

It is worth mentioning that national experts who participate effectively in regional and subregional national networks make all pertinent decisions.

6. Financial allocations from national budget in support of implementation as well as financial assistance to strengthen implementation

The Republic of Yemen has taken necessary steps to ensure the financing of projects related to desertification, with the help of an annual financing plan. These annual financing plans are integrated into the five year plans. It takes these steps in order to create a mechanism of finance. The most important step is the establishment of a financial source that addresses agriculture and fish production.

An important source of finance is derived from selling diesel within the country, along with a government budget allocated in the general budget. These sources of funding are supplemented by external assistance and grants.

Regarding financial allocations from the national budget, expenditures are used for needed manpower, for implementation of the national plan of Desertification, the provision of building furniture needed for the national coordination body, as well as supplementing the financing of projects that are externally financed, such as watershed management and the re-use of sewage water which is financed by The Kingdom of the Netherlands. The Government provides 145 million Yemeni Riyals or them. The Republic of Yemen is classified as a developing country. Thus it had obtained financial and technical support from a number of governments and organizations, mainly FAO, UNDP, IDA and IFAD.

Despite the financial resources allocated from local budget and foreign financial aid, implementation of the national programme in desertification control needs additional financial and technical support. Regarding financial support, it could depend on the following fundamentals:

(a) Provision of extra financial allocations from the national budget to Combat Desertification;

(b) Provision of financial component needed for desertification control in development projects;

(c) Encouraging the establishment of trans-boundary projects in international borders and searching for funding these projects;

(d) Increasing the coordination with local financial sources;

(e) Encouraging the contribution of Regional and International financial sources.

Regarding technical cooperation: it is proposed to develop this cooperation with developed countries, international and regional organizations concerned as follows:

(a) To upgrade scientific standards in desertification control;

(b) To support projects implementing traditional techniques related to water harvesting and resources conservation;

(c) To encourage the stability of local rural communities and a decrease in the immigration to towns;

(d) To establish a specialized centre for desertification control;

(e) To encourage the application of modern technology in providing energy alternatives;

(f) To increase the utilization of remote sensing and, GIS, in desertification monitoring and control as well as to establish a qualitative database.

7. Review of benchmarks and indicators utilized to measure progress and an assessment thereof

Until now Yemen has no systematic benchmarks and indicators to measure the application of the programme of work. For this reason a number of benchmarks and indicators derived from the documents distributed by the permanent secretariat of UNCCD or approved and used by some country Parties have been used by Yemen. The following, is benchmarks and indicator depends on:

Establishment of an environmental protection council as a mechanism to observe environment and evaluation.

(a) Establishment of a unit for evaluation and monitoring within the national coordination body as a follow-up mechanism ;

(b) Starting up the establishment of GIS and foundation of an informational system;

(c) Issuing quarterly and annual reports in the field of desertification control;

(d) Implementation of pilot projects and extension of their results to similar areas;

(e) Reactivation of the role of women through Gender Policy;

(f) Including desertification control programmes within development plans;

(g) Developing coordination with international agencies through signing assignments;

(h) Adopting of a number of traditional knowledge which has been accumulated by Yemeni farmers through the ages.

From the above-mentioned, it could be observed that the Republic of Yemen started implementing a number of concerned activities related to implementation of the United Nations Convention to Combat Desertification. The Republic of Yemen faced some obstacles in this respect, such as trained personnel and lack of modern equipment, which are needed to establish an informational network. Experience showed that cooperation with developed countries, regional and international organizations enables the national coordination body to implement the UNCCD, in particular, reactivation of women's role, increasing of people's contribution and training of technical personnel.

There is no doubt that the continuous implementation of the Convention, in wide and better aspects, needs additional efforts and provides a number of essential factors, mainly technical support and fund allocation, which will help the Republic of Yemen to follow the international trend in this domain.

- - - - -